

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 11, 15, 24 and 25 have been amended and claims 4, 5, 17 and 23, have been canceled, without prejudice or disclaimer. No new matter is submitted.

Reconsideration of the allowability of the claims is respectfully requested.

Claims 1, 3, 6-16, 18-22 and 24-25 are pending and under consideration.

ENTRY OF AFTER FINAL AMENDMENT

Entry of this Amendment is respectfully requested, as the present amendments do not raise new issues, would not require an additional search, and also place the claims in better condition for appeal. The features added to claims independent claims 1 and 11 have already been claimed in dependent claims and are merely the incorporation of the same into the independent claims. Similarly, new independent claims 24 and 25 are merely the same claims, but in independent form. Thus, these features have already been considered, i.e., they do not raise new issues and will not require an additional search.

More specifically, claim 1 had been amended to incorporate claim 4 and claim 11 has been amended to incorporate claim 17 and include "an arbitrary area at an inner and/or outer circumferences of each zone, separate from a user data recording area of each zone," which has previously been addressed in the rejection of dependent claims 15, where the Office Action further relies upon Kuriuzawa et al., U.S. Patent No. 6,385,144, which is also the primary reference used to reject independent claim 11.

In addition, as noted below, it is respectfully submitted that the outstanding Office Action is not proper as failing to address all the claims and improperly applying obviousness rejection rationale to some of the dependent claims.

Therefore, for at least the above, it is respectfully requested that this after final Amendment be entered and considered.

REQUEST FOR NEW OFFICE ACTION

First, it is noted that claim 20 would not appear to have been addressed in the outstanding Office Action. In addition, further regarding claim 20 referencing a claimed "coupling area," the Office Action indicates on page 6 that neither Kuriuzawa et al. or Maeda disclose a claimed coupling area, while rejecting the base claims of claim 20, i.e., claims 11 and 19, under a combination of Kuriuzawa et al. and Maeda, U.S. Patent No. 6,028,828. Thus, a rejection of claim 20 cannot be inferred from the rejection of the base claims.

Secondly, in the previous response, it was pointed out that a number of dependent claim rejections, after rejecting the base claim by modifying Kuriuzawa et al. to include a feature from Maeda, merely relied on Maeda for the disclosure of the additional feature recited in the respective claims. Similarly, the outstanding Office Action again presents such rejections, where the base claims are based on a modification of Kuriuzawa et al. to include a feature from Maeda and a feature from Fukushima et al., U.S. Patent No. 5,138,599, and again merely references further features in Fukushima et al. to disclose feature recited in dependent claims, without supplying any obviousness rationale for the same.

As commonly understood, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art..."[the Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992). In addition, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. Id. at 1783-84.

Thus, since the Office Action has agreed that none of the references disclose the presently claimed invention alone, each proposed modification of the base reference (or already modified combination) must be based on evidenced motivation for such a modification.

The fact that Maeda or Fukushima et al. may, arguably, disclose claimed features, is irrelevant unless there is a reason/rationale for further modifying the already modified combination.

See the Office Action rejections of claims 3, 6, 7, 9, 10, 12, 13, 16, 18, 21, 22, for example, where the rejections fail to provide any motivation or rational for the modification of the

proffered combination. The rejections merely point to the existence of the additional feature in Maeda or Fukushima et al.

Therefore, as the previous rejections were improper, and have again been reasserted, and as the present rejections are improper, a new Office Action with proper rejections, or withdrawal of the same, is respectfully requested.

REJECTION UNDER 35 USC 103

Claims 11-14 and 18-23 stand rejected under 35 USC 103 as being obvious over Kuriuzawa et al., U.S. Patent No. 6,385,144, in view of Maeda, U.S. Patent No. 6,028,828. This rejection is respectfully traversed.

As in the last response, it is again noted that the Office Action has set forth the obviousness rejections almost as an Official Notice statement, essentially using Official Notice language, but thereafter bases the rejection on modifying Kuriuzawa et al. in view of particular disclosures in Maeda. Thus, this response has interpreted this rejection as solely being an obviousness rejection based on a combination of Kuriuzawa et al. and Maeda.

Independent claim 11 has been amended to include the "wherein, during recording of user data, in each zone an arbitrary zone start pattern and/or zone end pattern is additionally recorded," previously recited in dependent claim 17, and "an arbitrary area at an inner and/or outer circumferences of each zone, separate from a user data recording area of each zone," which has previously been addressed in the rejection of dependent claims 15, where the Office Action further relies upon Kuriuzawa et al. to disclose the same.

Thus, by way of review and as an example, independent claim 11 sets forth:

"An optical disc, comprising:

a plurality of tracks formed in a spiral direction of the optical disc, each track having at least a groove portion; and

a plurality of zones, each zone including a predetermined number of the plurality of tracks and an arbitrary area at an inner and/or outer circumferences of each zone, separate from a user data recording area of each zone,

wherein the optical disc is formatted to include zone addresses for each zone by formatting a portion of the corresponding zone track grooves, in each zone, to include a wobble pattern based on a predetermined modulation rule, and

wherein, during recording of user data, in each zone an arbitrary zone start pattern and/or zone end pattern is additionally recorded."

Though it is difficult to determine exactly how the Examiner is interpreting Kuriuzawa et al. to correspond to which claimed features, applicant has interpreted the rejection as follows.

The Office Action relies on Kuriuzawa et al., in col. 2, lines 43-62, as disclosing an "arbitrary area at an inner and/or outer circumference in each zone separate from a user data recording area." See Page 9 of the Office Action.

This portion of Kuriuzawa et al. references FIG. 2 and the use of "guard areas" provided between zones of tracks, noting that "[g]uard areas prevent interferences with respective tracks of neighboring zones, and are used because track density is higher than it is in the related art."

Thus, it would appear that the Office Action has interpreted the claimed arbitrary areas as being the guard areas of Kuriuzawa et al.

The Office Action, on page 12, in further attempting to explain the underlying rejection, sets forth that "Kuriuzawa et al. teaches the use of a recording capacity in which an arbitrary boundary recording capacity is added to a data recording capacity needed for each divided zone in order to avoid cross-talk caused by the ID information in header areas between boundary zones. However, by adding the arbitrary boundary recording capacity to each divided zone recording capacity of the disk is reduced."

Again, this further explanation of how Kuriuzawa et al. is being interpreted would further appear to correspond the claimed "arbitrary area" with the guard areas of Kuriuzawa et al., especially since the guard areas operate to accomplish the avoiding of "cross-talk" between boundary zones."

It is unclear what the Office Action is referring to when it mentions that the "an arbitrary boundary recording capacity is added to a data recording capacity needed for each divided zone 'in order to avoid cross-talk caused by the ID information in header areas between boundary zones,'" since Kuriuzawa et al. would not appear to reference ID information in headers between "boundary zones." Kuriuzawa et al. actually indicates that ID and DATA areas do not exist in the guard areas, and that the guard areas are merely provided between zones and "prevent interferences with respective tracks of neighboring zones." See Kuriuzawa et al. in col. 2, lines 52-62.

Regardless, it would appear the Office Action has interpreted the guard areas of Kuriuzawa et al. as corresponding to the claimed "arbitrary area at an inner and/or outer circumferences in each zone."

That being the case, the Office Action details on page 13 that "Maeda acknowledge[s] the deficiency of reduction in capacity due to this arbitrary boundary recording capacity to each zone in combination with the ID information provided in the header areas...Maeda teaches increasing the capacity of the disk and preventing cross-talk by eliminating the ID information and/or boundary zones of two neighboring zones on the disk can be used for recording information allowing for the use of this arbitrary boundary recording capacity."

The Office Action primarily relies on Maeda, in col. 3, lines 1-24, which explains the problems in a disk that does not have the guard areas mentioned in Kuriuzawa et al., i.e., a disk where tracks of one zone directly abut tracks from another zone. As explained in Maeda, "[c]onsequently, cross-talk may occur between the header of one zone and a data field of the other zone. Thus boundary grooves of neighboring zones cannot be used on the disk, resulting in reduction of the disk memory capacity."

Thus, Maeda is concerned with cross-talk between zones when there is no guard area. Maeda discloses a method of avoiding such cross-talk issues without the need of boundary grooves, thereby permitting the addition of such previously required boundary grooves to the available disk memory capacity.

The Office Action further sets forth that Maeda, thus, teaches "increasing the capacity of the disk and preventing cross-talk by eliminating the ID information and/or boundary zones of two neighboring zones on the disk can be used for recording information allowing for the use of this arbitrary boundary recording capacity."

Here, the Office Action is relying on Maeda as support for removing the guard areas of Kuriuzawa et al., and thereafter implementing the invention of Maeda to prevent cross-talk.

The Office Action further recites "[t]herefore it would have been obvious...to include zone addresses for each zone by formatting a portion of the corresponding zone track grooves, in each zone, to include a wobble pattern based on a predetermined modulation, in order to eliminating the use of the ID information to increase the recording capacity, improving data accessing speed and/or prevent cross-talk at the boundaries between neighboring zones as suggested by Maeda."

In view of all the above, it is respectfully submitted that the Office Action would appear to be forcing the invention of Maeda into the Kuriuzawa et al. reference, where such a modification of Kuriuzawa et al. would not appear appropriate.

Essentially, the Office Action first relies on Kuriuzawa et al. to disclose a claimed arbitrary area at an inner and/or outer circumferences of a zone, then details how the same can be completely redesigned to operate completely differently based on Maeda.

It is respectfully submitted that it would not have been obvious to remove the guard areas of Kuriuzawa et al., since the primary focus in Kuriuzawa et al. would appear directed toward solving problems with guard areas and mis-tracking around the guard areas.

In addition, if the Office Action has to rely on Kuriuzawa et al. to disclose a feature, that feature cannot later be removed by a later modification, and still disclose the claimed invention. For example, if reference A is relied upon to disclose x, y, and z, reference B cannot be combined with reference A such that the end result is only x and y, and still disclose the claimed invention.

In addition, as illustrated in FIG. 2 of Kuriuzawa et al., this particular method is based on each zone of information being physically separated by a "guard track." As explained in Kuriuzawa et al., "[g]uard areas prevent interferences with respective tracks of neighboring zones, and are used because track density is higher than it is in the related art." Kuriuzawa et al. in col. 2, lines 57-62.

However, as further explained in Kuriuzawa et al. at the beginning of col. 3, there are problems with this guard track method in that "when the difference [between tracks] is large and the target track is set to the area near the guard area, the head is liable to seek the guard area and enter the guard area erroneously." Kuriuzawa et al.

Thereafter, Kuriuzawa et al. sets forth a head drive controller to help control the head from entering the guard area and for recovering if entered.

Again, it is noted that the Office Action primarily relies on col. 3, lines 41-62, of Kuriuzawa et al. in disclosing the guard areas corresponding to the claimed arbitrary area, thus the remaining portions of Kuriuzawa et al. solving problems with the corresponding guard areas would be relevant to any future modification of the same.

Thus, Kuriuzawa et al. is *primarily* directed toward media that have guard areas and provides a method for head control to overcome problems with the head nearing or entering the guard areas.

Thus, while Kuriuzawa et al. is solely directed toward improving media that use a boundary guard area, Maeda is primarily directed in the totally opposite direction toward finding a way to not need that boundary guard area.

As recited in MPEP 2143.01, "[i]f [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." Further, "[i]f the proposed modification or combination of the prior art would change the *principle of operation* of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Citing In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)(The court reversed the underlying rejection, holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate")

Here, if Maeda were imposed onto Kuriuzawa et al. to remove the guard tracks, there would be no need for any of the relied upon invention of Kuriuzawa et al., thereby extinguishing the usefulness of the invention of Kuriuzawa et al.

Further, the Office Action indicates that additional reasons for modifying Kuriuzawa et al. would be to prevent cross-talk between ID and Header information in adjoining fields.

However, Kuriuzawa et al. also specifically details that ID and DATA information are not recorded in the guard area. See Kuriuzawa et al. in col. 2, lines 52-56. Thus, Kuriuzawa et al. does not suffer from this problem of cross-talk between ID and header areas.

Essentially, the Office Action is arguing that if you fundamentally change the disk in Kuriuzawa et al., you now come up with several problems that did not previously exist. To solve these new problems the Office Action relies upon Maeda. However, Kuriuzawa et al. would appear to operate as intended and solve the corresponding problems existing in disks that include guard areas. Although Kuriuzawa et al. indicates that the invention thereof is also applicable to non-guard disks, the Office Action relies on the guard areas of Kuriuzawa et al. to

disclose the arbitrary area and thereby must consider the corresponding "guard area" aspects of Kuriuzawa et al.

Again, as detailed above, MPEP 2143.01 particularly details that "[i]f the proposed modification or combination of the prior art would change the *principle of operation* of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Thus, with the relied upon primary focus of Kuriuzawa et al. including a solution for guard areas, it would not have been obvious to now modify Kuriuzawa et al. to not have such guard areas, i.e., the Office Action is attempting to change the principle of operation of Kuriuzawa et al.

Further, as the Office Action first must rely upon Kuriuzawa et al. to disclose the claimed arbitrary area, as corresponding to Kuriuzawa et al.'s guard area, a modification of Kuriuzawa et al. cannot thereafter remove the guard areas, thereby removing the claimed arbitrary area from the ultimate combination, in which case the ultimate combination would not disclose all the claimed features.

Thus, for at least the above, it is respectfully submitted that it would not have been obvious to modify Kuriuzawa et al. as proffered in the Office Action.

Therefore, for at least the above, it is respectfully requested that this rejection of claim 11 be withdrawn and claim 11 be allowed. Similarly, for at least the above, it is respectfully requested that claims depending from independent claim 11 be allowed.

Claims 1, 3, 6-10, 15-16 and 24-25 stand rejected under Kuriuzawa et al., in view of Maeda and Fukushima et al., U.S. Patent No. 5,138,599. This rejection is respectfully traversed.

As noted above, it is respectfully submitted that it would not have been obvious to modify Kuriuzawa et al., in view of Maeda, as proffered in the Office Action. The underlying modification rationale for the aforementioned rejection of claim 11, and the proffered combination of Kuriuzawa et al. and Maeda in this rejection, are essentially the same, with the Office Action further relying on Fukushima et al. to disclose the claimed coupling area and/or zone start areas for claims 1, 3, 15-16, 24 and 25. As noted above, a number of claims that merely point out which features can be further found in Maeda or Fukushima et al. are improper for failing to provide any motivation for such a further modification of the underlying combination.

As noted above, Kuriuzawa et al. discloses a seeking solution for disks with guard areas, and Maeda disclosing a different addressing scheme for disks with adjoining zones without boundary tracks.

Fukushima et al. sets forth having a track, separate from each zone, and between zones, include dummy data to prevent cross-talk between adjacent zones.

Fukushima et al. is merely yet another example of a method for preventing cross-talk in a recording medium, just as Kuriuzawa et al. disclosed the use of guard areas, and Maeda disclosed the use of wobble modulation without guard areas or dummy tracks.

They are merely different methods for preventing cross-talk in different types of recording media.

Kuriuzawa et al., without Maeda, discloses the use of guard tracks and thereby prevents cross-talk between zones.

Further, the combination of Kuriuzawa et al. and Maeda proffered in the Office Action also similarly prevents the occurrence of cross-talk between zones.

Thus, it would not appear necessary or relevant to further modify either Kuriuzawa et al. or a combination of Kuriuzawa et al. and Maeda when the proposed solution is not relevant, as each reference or combination of references would not suffer from such a problem.

The Office Action argues that it would have been obvious to completely change the operation of Kuriuzawa et al., to remove guard areas, in the combination of Kuriuzawa et al. and Maeda (or at least make their existence unnecessary), while in the presently proffered combination, the Office Action would again appear to be arguing that it would have been obvious to now modify the combination of Kuriuzawa et al. and Maeda in the opposite direction to lose valuable recording capacity by having empty "dummy" tracks between zones.

Thus, regardless of how Kuriuzawa et al. or Maeda, taken separately or in combination, are interpreted, the final interpretation will have already solved the potential cross-talk problem and not need the solution discussed in Fukushima et al. There would not be any need for incorporating features of Fukushima et al. into Kuriuzawa et al. or Maeda, alone or in combination.

The rejections of independent claims 1, 24 and 25 all require the addition of similar features from Fukushima et al. into a combination of Kuriuzawa et al. and Maeda. Therefore, as

it would not have been obvious to add features of Fukushima et al. to such combination, it is respectfully submitted that these rejections fail to set forth prima facie obviousness cases.

Lastly, incorporating the discussions above, it is further noted that independent claims 1 and 11 have been amended to include the claimed: "each zone an arbitrary zone start pattern and/or zone end pattern is additionally recorded," from dependent claims 4 and 17, respectively.

Similar to above, the Office Action merely references that Fukushima et al. discloses these claimed features. See the outstanding Office Action on page 7, regarding the rejection of claim 4. In the rejection of claim 4, the Office Action merely points out where Fukushima et al. discloses the feature, without any recited motivation/suggestion, while in rejecting claim 17 the Office Action merely reasserts that it would have been obvious to incorporate the claimed feature from Fukushima et al. "in order to avoid erroneous reproduction due to cross-talk between adjacent zones as suggested by Fukushima et al."

Again, the above remarks are appropriate. If the modification for Kuriuzawa et al. to include features from Maeda was to reduce cross-talk between adjacent zones, then it is unclear how the addition of these arguable features from Fukushima et al. would be needed in the combination of Kuriuzawa et al. and Maeda.

Further, it is also respectfully submitted that, in view all the claimed features of the independent claims and the claimed arbitrary zone start pattern and/or zone end pattern being additionally recorded in each zone, the interpretation of the claimed arbitrary zone start pattern and/or zone end pattern additionally recorded in each zone applied in the Office Action is inappropriate and Fukushim et al. fails to disclose the same.

Therefore, for at least the above, it is respectfully requested that this rejection of claims 1, 3, 6-10, 15-16 and 24-25 be withdrawn and claims 1, 3, 6-10, 15-16 and 24-25 be allowed.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

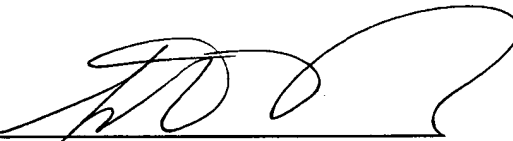
Respectfully submitted,

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6/10/04

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